

REMARKS

The present Amendment amends claims 6-10. Therefore, the present application has pending claims 6-10.

Claims 6-10 stand rejected under 35 USC §112, first paragraph, as allegedly failing to comply with the written description requirement. Particularly, the Examiner alleges that the claims contain subject matter which was not described in the specification in such a way to reasonably convey to one skilled in the relevant art that the inventors at the time the application was filed had possession of the claimed invention. The Examiner objected to the recitation in the claims regarding a particular data terminal communicating on a particular input line.

Amendments were made to the claims to more clearly recite that the present invention is directed to the transmitting of data from a data terminal device to a line switching unit and for allocating the data from the means for storing to the plurality of lines based on the delay times measured by the means for measuring. Thus, the claims were amended to eliminate the recitation of a particular data terminal device communicating over a particular input line. These features of the present invention are described in the specification, for example, in paragraphs 0010, 0013 and paragraphs 0027-0041.

Thus, the specification sufficiently describes the subject matter of the present invention as recited in the claims in a manner so as to reasonably convey to one skilled in the relevant art that the inventors at the time the application was filed had possession of the claimed invention. Therefore, reconsideration and withdrawal of the 35 USC §112, first paragraph rejection of claims 6-10 is respectfully requested.

Claims 6-10 stand rejected under 35 USC §103(a) as being unpatentable over Riedel (U.S. Patent No. 5,748,615) in view of McDonald (U.S. Patent No. 6,442,166). This rejection is traversed for the following reasons. Applicants submit that the features of the present invention as now more clearly recited in claims 6-10 are not taught or suggested by Riedel or McDonald whether taken individually or in combination with each other as suggested by the Examiner. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw this rejection.

Amendments were made to claims 6-10 so as to more clearly recite features of the present invention. Particularly, amendments were made to claims 6-10 so as to more clearly recite that the present invention is directed to a line switching unit 10 such as that illustrated, for example, in Fig. 2 of the present application including means for controlling 17 the switching of a plurality of lines, means for measuring 14 line delay times of the plurality of lines, means for storing 11 data transmitted from a data terminal device 30 to the line switching unit 10, means for allocating 15 the data from the means for storing to the plurality of lines based on the delay times measured by the means for measuring 14 and means for separately controlling 18 a clock signal for receiving data from the data terminal device 30 and a clock signal for transmitting data to the plurality of lines.

Unique according to the present invention is that the delay times of the plurality of lines are measured and the data from the data terminal device 30 read from the means for storing 11 is allocated to the plurality of lines in units with timing determined for each of the plurality of lines based on the measured delay times. Thus, by use of the present invention, the amount of data transmitted from the data

terminal device is guaranteed since the amount of data allocated to the lines corresponds to the ability of the lines to quickly move data.

The above described features of the present invention now more clearly recited in the claims are not taught or suggested by any of the references of record particularly Riedel and McDonald whether taken individually or in combination with each other as suggested by the Examiner.

Riedel teaches a method and circuit for forwarding cells transmitted via an ATM communication equipment to a serving trunk A1. Particularly, Riedel teaches technology for controlling the transfer timing of real time data and non-real time data between offering trunks E1 and serving trunks A1. Riedel teaches, for example, in Figs. 1 and 2 thereof an ATM communication equipment KE having a switching network SN wherein offering trunks E1-EN are respectively connected to the switching network SN via line units AE and serving trunks A1-AE are respectively connected to the switching network SN via handling means BHE. As taught in Riedel, real time data and non-real time data input to the ATM communication apparatus KE via offering trunks E1-EN are switched so as to be supplied to serving trunks A1-AN via handling means BHE. As per Riedel, the handling means BHE includes circuitry for controlling the transfer timing of real time data and non-real time data. Riedel specifically teaches that the handling means BHE uses a waiting list so as to identify real time data which has a higher priority than non-real time data and as such the timing of the transfer of such real time data is giving priority over non-real time data.

Thus, as is quite clear from the above, the teachings of Riedel are entirely different from that of the present invention. The present invention as clearly recited in the claims is directed to a line switching unit which controls the allocation of data between a plurality of lines according to the delay times which may exist in the different lines. The present invention attempts to apportion data between the plurality of lines each having different delay times so that the data is efficiently carried to the terminal device according to the ability of the lines to move data, thereby guaranteeing that a particular amount of data is transferred. Thus, according to the present invention, lines which have small delay time are used to transfer a large amount of data than lines which have a large delay time. The allocation of the transmission of data between the lines in this manner allows for the guarantee of the transfer of a particular amount of data. These features are clearly not taught or suggested by Riedel.

Thus, Riedel fails to teach or suggest means for measuring line delay times of the plurality of lines and means for allocating the delay from means for storing to the plurality of lines based on the delay times measured by the means for measuring as recited in the claims.

Further, Riedel fails to teach or suggest means for separately controlling a clock signal for receiving data from the data terminal device and a clock for transmitting data to the plurality of lines wherein the line delay times of the plurality of lines are measured and the data from the data terminal read from the means for storing is allocated to the plurality of lines in units with timing determined for each of

the plurality of lines based on the measured delay times, thereby guaranteeing an amount of data transmitted from the data terminal as recited in the claims.

The above noted deficiencies of Riedel are not supplied by McDonald. Therefore, combining the teachings of Riedel and McDonald in the manner suggested by the Examiner in the Office Action still fails to teach or suggest the features of the present invention as now more clearly recited in the claims.

McDonald simply teaches a method of scheduling cells including estimating the virtual clock of each connection by online traffic measurement, determining the lateness of the cells for each connection and giving high priority to the latest cell. However, this teaching of McDonald does not include measuring delay times and allocating data to the plurality of lines based on the delay times as recited in the claims. Further, this teaching of McDonald does not provide for separately controlling a clock signal for receiving data from the data terminal device and a clock signal for transmitting data to the plurality of lines wherein the delay times of the plurality of lines are measured and the data from the data terminal device read from the means for storing is allocated to the plurality of lines in units with timing determined for each of the plurality of lines based on the measured delay times, thereby guaranteeing an amount of data transmitted from the terminal device as recited in the claims.

Thus, McDonald suffers from the same deficiencies relative to the features of the present invention as now more clearly recited in the claims as Riedel. Therefore, combining the teachings of Riedel and McDonald in the manner suggested by the

Examiner in the Office Action still fails to teach or suggest the features of the present invention as now more clearly recited in the claims.

Accordingly, based on the above, Applicants respectfully request the Examiner to reconsider and withdraw the 35 USC §103(a) rejection of claims 6-10 as being unpatentable over Riedel in view of McDonald.

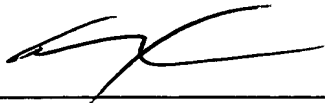
The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the references utilized in the rejection of claims 6-10.

In view of the foregoing amendments and remarks, Applicants submit that claims 6-10 are in condition for allowance. Accordingly, early allowance of claims 6-10 is respectfully requested.

To the extent necessary, the applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (648.37184X00).

Respectfully submitted,

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